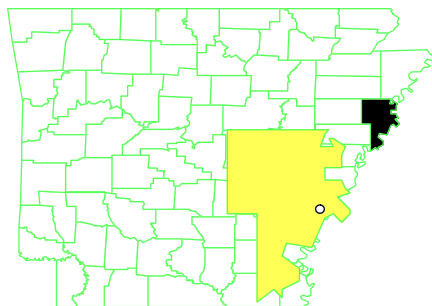


SOUTH 8TH ST. LANDFILL

ARKANSAS

EPA ID# ARD980496723



EPA REGION 6
CONGRESSIONAL DISTRICT 01

Crittenden County
West Memphis

Updated: August 4, 2003

Other Names:
West Memphis Landfill

Site Description

Location: West Memphis, Crittenden County, Arkansas, across the Mississippi River from Memphis, Tennessee

Population: An estimated 30,400 people live within 4 miles of the site.

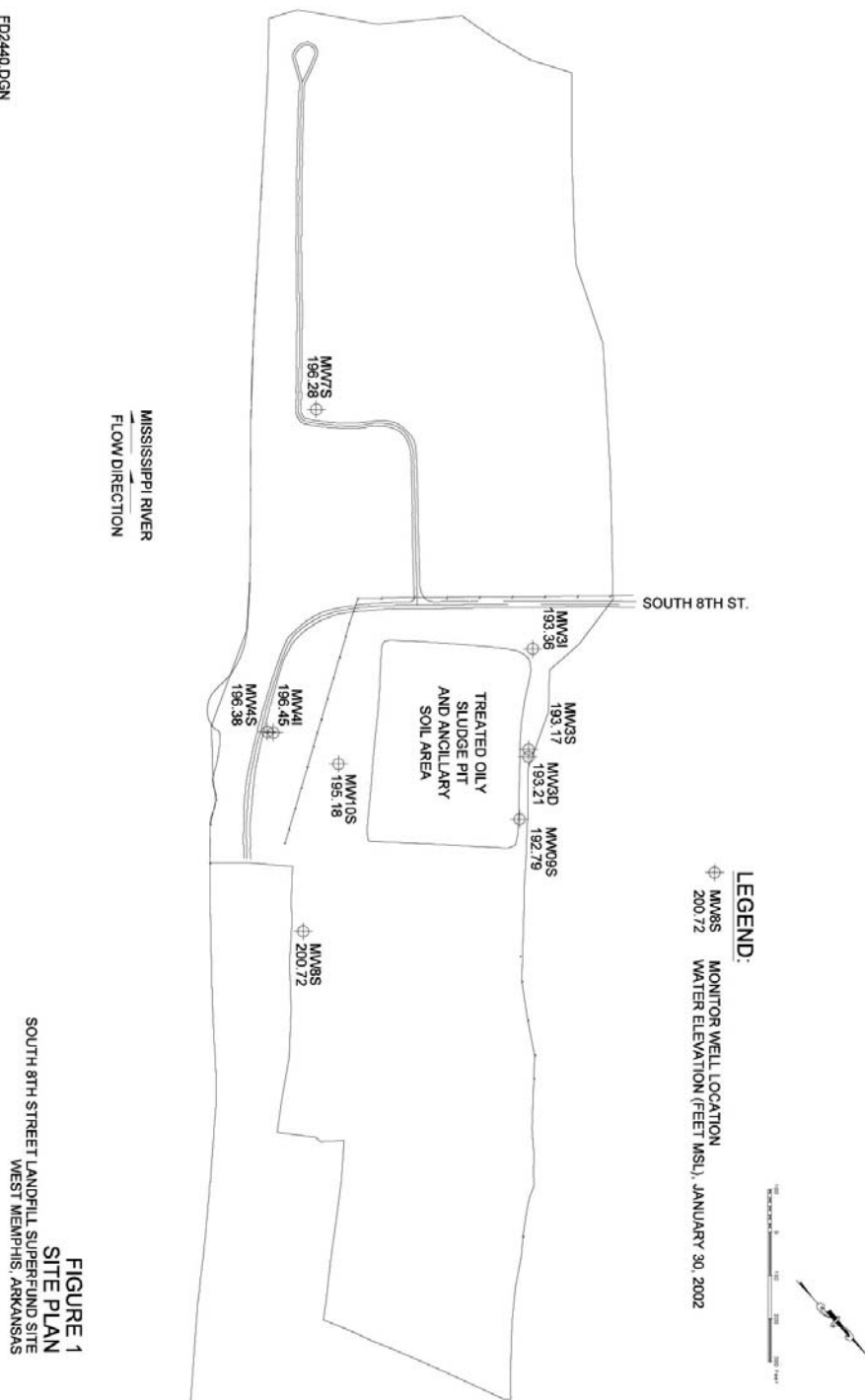
Setting: The site consists of a 16 acre landfill containing industrial and municipal waste. An oily sludge pit occupying approximately 2.5 acres of the landfill was treated during the Remedial Action completed in August 2000.

The site is adjacent to the Mississippi River on the two year flood plain between the St. Francis Levee and the Mississippi River. The site is subjected to flooding from the Mississippi River between November and May. Surrounding land use consists of an operating RV park and barge terminal operations on the Mississippi River. Drinking water for the RV park is supplied by the City of West Memphis. The current river stage for the Mississippi River at Memphis, TN can be found at http://www.mvm.usace.army.mil/hydraulics/docs/current_river_stages.htm.

Hydrology: Within the alluvial aquifer beneath the site, the ground water table ranges from a few feet to 20 feet below the ground surface depending upon the stage of the Mississippi River. Ground water discharges to the adjacent Mississippi River. A clay unit of the Claiborne Group forms the base of the alluvial aquifer at a depth of 150 feet and isolates the alluvial aquifer from the Wilcox aquifer. The City of West Memphis obtains their drinking water supply from wells completed at a depth of 1300 feet in the Wilcox aquifer approximately 2 - 4 miles from the site.

Site Map and Diagram

FD2440.DGN



Wastes and Volumes

Principal Pollutants:

- Prior to treatment, the waste in the oily sludge pit was highly corrosive with a pH of less than 2.0 and contained lead, PCBs, and carcinogenic poly-aromatic hydrocarbons (PAHs).
- Contaminants in the landfill areas of the site include carcinogenic PAHs and several pesticides.
- Ground water contaminants include lead, arsenic, and manganese.

Volume:

- A total of 19,376 cubic yards of oily sludge and 22,372 cubic yards of ancillary soil were neutralized and treated.
- The 16 acre landfill has a natural soil cover with a minimum thickness of 2 feet.

Site Assessment and Ranking

NPL LISTING HISTORY

Site HRS Score: 50.27
Proposed Date: 2/07/92
Final Date: 10/14/92

The Remediation Process

Site History:

- Aerial photographs indicate that the site was used for the excavation of a series of borrow pits and the subsequent disposal of waste since 1959. Most of the early disposal activities were conducted in the area of the large oily waste pit.
- EPA investigated the site between 1981 and 1988 prior to the placement of the site on the National Priorities List in 1992.
- EPA issued a Unilateral Administrative Order ("UAO") to the potentially responsible parties ("PRPs") for the South 8th Street site on May 23, 1992. The UAO required the PRPs to construct a fence around the former disposal areas and to investigate the oily sludge pit. Construction of the fence was completed in July 1992.
- On August 3, 1992, EPA commenced a Remedial Investigation and Feasibility Study ("RI/FS") for the landfill portion of the Site.
- Although the PRPs initially undertook the oily sludge pit investigation, EPA suspended the PRP activities on September 2, 1992, due to failure to comply with requirements of the UAO.
- EPA expanded the scope of its ongoing RI/FS at the Site when it took over the pit investigation in September 1992. EPA completed the RI/FS Report on June 30, 1993, addressing both the landfill and oily sludge pit at the South 8th Street site.
- In 1992, under the CERCLA time-critical removal authority, EPA constructed a 1600 linear foot berm around the oily sludge pit to minimize the spread of contamination that could result from flooding of the Site. Construction of the berm was completed between October and November 1992.

- EPA issued a Record of Decision (ROD) in September 1994 calling for on-site stabilization/ solidification and off-site disposal of the oily sludge pit wastes and a natural soil cover over the former landfill areas. The ROD split the site into a source control (landfill and pit) and ground water operable units. A decision on ground water was deferred pending collection of additional data.
- EPA encouraged the formation of a PRP group by supplying a third party mediator to act as a catalyst for group formation. A PRP group was formed to conduct the remedial design for the site.
- EPA signed an Administrative Order on Consent (AOC) on 3/02/96 in which the PRPs agreed to perform the remedial design for the site.
- The ground water remedial investigation was completed in November 1996 and the feasibility study was completed in July 1997.
- Due to repeated damage to the site security fence during flooding by the Mississippi River, EPA approved a proposal by the PRPs to discontinue repairs to the security fence and instead construct a fence along the top of the berm surrounding the oily sludge pit. The new fence was installed in 1997.
- The ROD Amendment was signed by the EPA Regional Administrator on July 22, 1998 for the selection of in-situ stabilization/solidification for the oily sludge pit (source control operable unit) and monitored natural attenuation with institutional controls for the ground water operable unit.
- The major component of the amended remedy for the oily sludge pit area in the source control operable unit included in-place (in-situ) stabilization/solidification of an estimated 19,376 cubic yards of sludge and 22,372 cubic yards of ancillary soil and debris in the oily sludge pit area capable of meeting the more stringent performance standards for in-place management of the treated material and protection of the site ground water;
- The ROD Amendment also modified the scope of the natural soil cover to be installed on the landfill by requiring the installation of a 2-foot thick natural soil cover over part of Area 1 of the landfill and the treated oily sludge pit area in Area 2 of the landfill. In addition, the ground water monitoring component identified in the 1994 ROD is now included in the remedy component for the ground water operable unit. In addition, placement of property easement to prohibit the digging or trenching on the property to prevent damage to the soil cover and exposure of the treated material beneath the soil cover. The property owner has signed a Consent Decree implementing the property easement.
- The major components of the selected remedy for the ground water operable unit include:
 - Natural attenuation of the hazardous substances in the ground water following remediation of the oily sludge pit. The natural attenuation is based on dilution and dispersion of metals that have leached into the ground water.
 - Ground water monitoring and the installation of additional monitoring wells as necessary.
 - Placement of property easement to prohibit the installation of wells on the property until the Remedial Goals for the ground water have been met. The property owner has signed a Consent Decree implementing the property easement.
 - Long-term operation and maintenance.
 - A review conducted five years after the remedial action begins to ensure that the remedy continues to adequately protect human health and the environment.

- The Remedial Design for the amended source control remedy and the ground water remedy was completed by the PRP Group and approved by EPA on 8/26/98.
- The PRPs selected Conestoga-Rovers & Associates (CRA) as the supervising contractor for the Remedial Action under the UAO. The Remedial Action Workplan was received from the PRPs on 1/11/99 and approved by EPA on 1/20/99.
- Mobilization activities for the Remedial Action construction to address the oily sludge pit commenced during the last week of June, 1999. All remedial action construction was completed in August 2000. EPA and ADEQ conducted a final inspection on August 22, 2000.
- The Remedial Action Report prepared by the PRP Group has been approved by EPA.
- Ground water sampling and any other operation and maintenance activities are performed utilizing funds received from the PRPs as part of the settlement under the Consent Decree entered by the U.S. District Judge in December 2000.
- The property owner, William L. Johnson Co., has filed the property easement in accordance with the signed Consent Decree.

Health Considerations:

- The oily sludge pit was the principal threat waste at the site and has been addressed during the remedial action. The short term risks were from the highly corrosive nature of the waste and the long-term carcinogenic risks were attributed to the organic contaminants present in the waste.
- Arsenic in the ground water poses a long-term carcinogenic risk to the future recreational worker at the site (5×10^{-4}). Arsenic, manganese and lead pose a long-term non-carcinogenic risk to the future recreational worker and recreational visitor at the site. Ground water contaminants do not pose a risk to the water supply for the City of West Memphis.

Other Environmental Risks:

- The ecological risks at the site were addressed during the Remedial Action. The oily sludge pit had posed an unacceptable environmental risk (Hazard Index greater than one for several contaminants) to small mammal (mouse) and avian raptor populations (red shouldered hawk).
- The discharge of ground water contaminants into the Mississippi River does not adversely impact the water quality of the Mississippi River.

Record of Decision

Signed: September 1994
Amended: July 1998

- Community Involvement Plan: Developed 5/92
- Open Houses/Workshops: 1/92, 4/92, 2/93, 4/93, 8/93, 12/94, 3/95
- Three meetings were held with public officials during 1992 and 1993, and one in 6/97
- Original Proposed Plan - 7/93; Public Meeting 8/93
- ROD - Selected 09/94

- Community meeting to brief citizens on revised ROD as signed, 12/94
- Community meeting to brief citizens on a proposed change in the ROD remedy, 6/97, 8/97, 1/98
- Proposed Plan for Amended Remedy for Source Control Operable Unit and Preferred Remedy for Ground Water Operable Unit - 1/5/98 to 2/4/98; Public Meeting - 1/26/98
- Milestone Fact Sheets: 2/92, 4/92, 7/93, 6/97, 1/98, 8/98
- Citizens on site mailing list: 150
- Site Repository: West Memphis Public Library

Technical Assistance Grant

- Availability Notice: 4/92
- Letters of Intent Received: None
- Final Application Received: N/A
- Grant Award: N/A
- Current Status: Available

Contacts

- **EPA Remedial Project Manager:** Vincent Malott, 214/665-8313
- **EPA Community Involvement:** Vincent Malott, 214/665-8313
- **EPA Attorney:** Anne Foster, 214/665-2169; Amy McGee, 214/665-8063
- **EPA State Coordinator:** Karen Bond, 214/665-6682, Mail Code 6SF-AP
- **EPA Prime Contractor:** CH2M Hill
- **State Contact:** Masoud Arjmandi, 501/682-0852, ADEQ

Enforcement

- General Notice sent to 25 Potentially Responsible Parties (PRPs) - 2/07/92.
- Special Notice sent to 26 PRPs - 3/18/92.
- Unilateral Administrative Order (UAO) issued to PRPs (except for City of West Memphis) to construct fence around the former disposal areas and investigate the oily sludge pit - 5/23/92. PRPs began the pit investigation in August 1992. EPA took over the pit investigation in September 1992.
- 35 PRPs formed a group to sign an Administrative Order on Consent (AOC) with EPA on 3/2/96 to design the site remedy. The PRP Group has submitted the remedial design documents required under the AOC.
- Unilateral Administrative Order (UAO) issued on 11/18/98 to fifty-seven (57) PRPs to implement the selected remedy for the oily sludge pit in the source control operable unit. EPA held a conference with the PRPs on 12/02/98 in Dallas, TX to discuss the UAO with the PRPs. The UAO was effective on 12/4/98. The PRPs notified EPA of their intent to comply with the UAO on 12/14/98.
- Consent Decree implementing the remedial action, including institutional controls, and payment of costs was entered by the U.S. District Judge on December 19, 2000. The Consent Decree was previously signed by EPA and the settling PRPs (generators and landowner).

Present Status and Issues

- EPA has completed the ground water sampling activities at nine monitoring wells to evaluate the monitored natural attenuation remedy for the ground water operable unit. EPA collected ground water samples in January 2002 and monthly from April through November 2002. The monthly sampling effort evaluated influences on contaminant concentrations related to the seasonal rise and fall of the water table.
- The ground water sample results verified that the stabilization/solidification of the oily sludge pit completed in August 2000 has been effective in reducing or eliminating further leaching of metals into the ground water. Sample results for metals were below the remedial goals with the exception of one well in August that exceeded the remedial goal for manganese. The remedial goals for the ground water are: lead at 15 ppb; arsenic at 50 ppb; barium at 2000 ppb; beryllium at 4 ppb; and manganese at 4088 ppb. In addition, volatile organic compounds were infrequently detected at very low concentrations below their respective maximum contaminant levels.
- The Site flooded between the May and June ground water sampling events.
- The September sampling was cancelled due to the low water table which prevented sample collection in the shallow wells.
- The ground water monitoring wells were plugged and abandoned in June 2003.
- A Five-Year Review of the site-wide remedial action will be completed by May 2004.

Benefits

- Treatment of the oily sludge pit has removed the potential risk to human health from accidental exposure, removed the potential ecological risk due to exposure to animal life from exposure, and reduced the ongoing leaching of contaminants from the sludge pit to the ground water which ultimately discharges into the adjacent Mississippi River.
- The 16 acre landfill will be available for site reuse consistent with the property restrictions or provide a natural habitat for use by mammals and birds.